SLOVENSKI STANDARD
oSIST prEN 13115:2018

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Okna - Klasifikacija mehanskih lastnosti - Navpične obremenitve, torzija in sile pri uporabi

Windows - Classification of mechanical properties - Racking, torsion and operating forces

Fenster - Klassifizierung mechanischer Eigenschaften - Vertikallasten, Verwindung und Bedienkräfte

Fenêtres - Classification des propriétés mécaniques - Charge verticale, torsion et efforts de manoeuvre

Ta slovenski standard je istoveten z: **prEN 13115**

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91.060.50	Vrata in okna	Doors and windows

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English Version

Windows - Classification of mechanical properties - Racking, torsion and operating forces

Fenêtres - Classification des propriétés mécaniques - Charge verticale, torsion et efforts de manoeuvre

Fenster - Klassifizierung mechanischer Eigenschaften - Vertikallasten, Verwindung und Bedienkräfte

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 13115:2018) has been prepared by Technical Committee CEN/TC 33 “Doors, windows, shutters, building hardware and curtain walling”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13115:2001.

This document is part of a series of standards dedicated to windows.

1 Scope

This document provides a means of classifying the performance of opening windows according to their strength in resisting, where appropriate, racking load, static torsion and their operating forces. Special aspects such as those of burglar resistance are not covered. [1)]

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14608, *Windows - Determination of the resistance to racking*

EN 14609, *Windows - Determination of the resistance to static torsion*

EN 12046-1, *Operating forces - Test method - Part 1: Windows*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Classification criteria

4.1 General

After testing, according to the type of window construction as indicated below, the test specimen shall remain functional in relation to its operating forces (see 4.2). The specimen shall not suffer such damage or deformation, including breakage or loosening of hardware, joints or weather sealing systems, as would render it unfit for its purpose.

4.2 Operating forces

Opening windows shall be tested in accordance with EN 12046-1. Tables 1 and 2 list the forces and/or torques to be sustained for the various classes.

Table 1 — Classification of operating forces – excluding vertical sliding windows

Maximum window operating forces		Maximum hardware operating forces			Classification of operating forces
		Lever handles (hand operated)		Finger operated	
> 100 N	AND	> 100 N or > 10 Nm	AND	> 50 N or > 5 Nm	**Class 0**
≤ 100 N		≤ 100 N or ≤ 10 Nm		≤ 50 N or ≤ 5 Nm	**Class 1**
≤ 30 N		≤ 30 N or ≤ 5 Nm		≤ 20 N or ≤ 2 Nm	**Class 2**

1) Effects on other criteria, such as air permeability, are not addressed by prEN 13115.

Table 2 — Classification of operating forces – vertical sliding windows only

Maximum force to start motion (N)		Maximum force to operate (N)		Maximum hardware operating forces			Classification of operating forces
				Lever handles (hand operated)		Finger operated	
≤ 90	AND	≤ 75	AND	≤ 30 N or ≤ 5 Nm	AND	≤ 20 N or ≤ 2 Nm	Class A
≤ 120		≤ 100		≤ 100 N or ≤ 10 Nm		≤ 50 N or ≤ 5 Nm	Class B
≤ 150		≤ 125		≤ 100 N or ≤ 10 Nm		≤ 50 N or ≤ 5 Nm	Class C
≤ 180		≤ 150		≤ 100 N or ≤ 10 Nm		≤ 50 N or ≤ 5 Nm	Class D

NOTE For vertical sliding windows, the operating forces reflect the use of two hands to operate the sash.

4.3 Resistance to racking load

Hinged, pivoted or sliding windows shall be tested in accordance with EN 14608.

The load to be applied shall be selected from the performance levels in Table 3.

4.4 Resistance to static torsion

Hinged or pivoted windows shall be tested in accordance with EN 14609.

The load to be applied shall be selected from the performance levels in Table 3.

5 Classification

The classification is shown in Tables 1, 2 and 3.

Hinged or pivoted windows shall be subjected, separately, to tests for racking, static torsion and operating forces.

Sliding windows shall be subjected, separately, to tests for racking and operating forces only.

Secondary sashes/casements, opened only for cleaning purposes, shall be tested to 100 N only for test 1 in the case of sliding sashes and for tests 1 and 2 in the case of hinged casements.

Table 3 — Classification for racking and static torsion[2] (mechanical strength)

Test	Resistance to:	Class 0	Class 1	Class 2	Class 3	Class 4
Racking Test	racking	< 200 N	200 N	400 N	600 N	800 N
Static Torsion Test	static torsion	< 200 N	200 N	250 N	300 N	350 N

NOTE For classification criteria, see Clause 4.

2) To qualify for a particular class, the requirements of both tests, where relevant, are satisfied.

Bibliography

[1] EN 12519, *Windows and pedestrian doors - Terminology*